

IN THE CLAIMS:

Claims 1-3, 5-10 and 27-30 have been amended herein. Claims 11-26 and 31-44 have been withdrawn. All of the pending claims 1 through 44 are presented below. This listing of claims will replace all prior versions and listings of claims in the application. Please enter these claims as amended.

Listing of Claims:

1. (Currently amended) A method for producing mRNA encoding ~~Plasmodium AMA-1~~ a *Plasmodium* apical membrane antigen-1 (AMA-1) ectodomain, or a functional part thereof, functional derivative thereof, and/or functional analogue thereof, or any combination thereof, in a yeast cell, said method comprising:

providing said yeast cell with a nucleic acid encoding said ectodomain or functional part thereof, functional derivative thereof, and/or functional analogue thereof, or any combination thereof, said nucleic acid being modified to utilize said yeast cell's codon usage.

2. (Currently amended) The method according to claim 1, further comprising ~~allowing for expression of said *Plasmodium* AMA-1 ectodomain or functional part, derivative and/or analogue thereof~~ expressing said nucleic acid in said yeast cell.

3. (Currently amended) The method according to claim 2, further comprising purifying said ~~*Plasmodium*~~ *Plasmodium* AMA-1 ectodomain or functional part thereof, functional derivative thereof, and/or functional analogue thereof, or any combination thereof.

4. (Previously presented) The method according to claim 1, wherein at least one putative yeast polyadenylation consensus sequence in the nucleic acid has been modified.

5. (Currently amended) The method according to claim 1, wherein at least one site in said ~~Plasmodium~~ mRNA encoding Plasmodium AMA-1 ectodomain ~~or functional part, derivative and/or analogue thereof that is generally comprising a glycosylation signal~~ glycosylated by eukaryotic expression systems, has been removed.

6. (Currently amended) The method according to claim 1, wherein ~~the Plasmodium~~ said mRNA encoding Plasmodium AMA-1 ectodomain belongs to the clade whose members express AMA-1 protein as an approximately 83 kDa protein. ~~20~~

7. (Currently amended) The method according to claim 6, wherein ~~the Plasmodium~~ said mRNA encoding Plasmodium AMA-1 ectodomain comprises ~~Plasmodium falciparum~~ mRNA encoding Plasmodium falciparum AMA-1 ectodomain.

8. (Currently amended) The method according to claim 7, wherein ~~the Plasmodium~~ is ~~Plasmodium falciparum FVO~~ the mRNA encoding Plasmodium AMA-1 ectodomain comprises mRNA encoding Plasmodium falciparum Vietnam-Oak Knoll strain ectodomain.

9. (Currently amended) The method according to claim 1, wherein said yeast cell is ~~Pichia~~ Pichia.

10. (Currently amended) The method according to claim 9, wherein said yeast cell is ~~Pichia pastoris~~ Pichia pastoris.

11. (Withdrawn) An isolated and/or recombinant nucleic acid sequence encoding Plasmodium ANU-1 ectodomain or a functional part, derivative and/or analogue thereof, said nucleic acid being modified to utilize a yeast's codon usage.

12. (Withdrawn) The isolated and/or recombinant nucleic acid sequence of claim 11, wherein at least one putative yeast polyadenylation consensus sequence has been modified.

13. (Withdrawn) The isolated and/or recombinant nucleic acid sequence of claim 11, wherein at least one site in said ectodomain or functional part, derivative and/or analogue thereof that is generally glycosylated by eukaryotic expression systems, has been removed.

14. (Withdrawn) An isolated and/or recombinant nucleic acid sequence encoding Plasmodium AMA-1 ectodomain or a functional part, derivative and/or analogue thereof, said nucleic acid comprising a sequence depicted in Figure 1.

15. (Withdrawn) A nucleic acid sequence, said nucleic acid sequence being an AMA-1 specific nucleic acid sequence, capable of hybridizing to at least a functional part of a nucleic acid according to claim 11.

16. (Withdrawn) The nucleic acid sequence of claim 15, wherein said hybridization is under stringent conditions.

17. (Withdrawn) A nucleic acid sequence, which is an AMA-1 specific nucleic acid sequence, said nucleic acid sequence having at least 50 percent homology to the isolated and/or recombinant nucleic acid sequence of claim 11.

18. (Withdrawn) The nucleic acid sequence of claim 17, having at least 60 percent homology to said isolated and/or recombinant nucleic acid sequence.

19. (Withdrawn) The specific nucleic acid sequence of claim 17, having at least 75 percent homology to said isolated and/or recombinant nucleic acid sequence.

20. (Withdrawn) The nucleic acid sequence of claim 17, having at least 90 percent homology to said isolated and/or recombinant nucleic acid sequence.

21. (Withdrawn) The nucleic acid sequence of claim 11, wherein said *Plasmodium* belongs to the clade whose members express AMA-1 protein as an approximately 83 kDa protein.

22. (Withdrawn) The nucleic acid sequence of claim 11, wherein said *Plasmodium* comprises *Plasmodium falciparum*.

23. (Withdrawn) The nucleic acid of claim 22, wherein said *Plasmodium* is *Plasmodium falciparum* FVO.

24. (Withdrawn) The nucleic acid sequence of claim 11, wherein said ectodomain or functional part, derivative and/or analogue thereof comprises a consensus *Plasmodium* AMA-I ectodomain or a functional part, derivative and/or analogue thereof.

25. (Withdrawn) The nucleic acid sequence of claim 11, wherein said yeast is *Pichia*.

26. (Withdrawn) The nucleic acid sequence of claim 25, wherein said yeast is *Pichia pastoris*.

27. (Currently amended) A process for producing ~~Plasmodium AMA-1~~ a Plasmodium apical membrane antigen-1 (AMA-1) ectodomain or a functional part thereof, functional derivative thereof, ~~and/or functional~~ analogue thereof, or any combination thereof, said method comprising:

-providing a yeast cell with ~~the~~ an isolated or recombinant nucleic acid ~~of claim 11 and,~~ encoding Plasmodium AMA-1 ectodomain or a functional part thereof, functional derivative thereof, functional analog thereof, or any combination thereof, said nucleic acid being modified to utilize a yeast cell's codon usage; and

-collecting formed ~~Plasmodium~~ Plasmodium AMA-1 ectodomain or functional part thereof, functional derivative thereof, ~~and/or functional~~ analogue thereof, or any combination thereof.

28. (Currently amended) The process of claim 27, further comprising purifying said formed Plasmodium AMA-1 ectodomain or functional part thereof, functional derivative thereof, ~~and/or functional~~ analogue thereof, or any combination thereof.

29. (Currently amended) The process of claim 27, wherein said yeast cell is ~~Pichia~~ Pichia.

30. (Currently amended) The process of claim 29, wherein said yeast cell is ~~Pichia~~ Pichia pastoris.

31. (Withdrawn) A Plasmodium AMA-1 ectodomain or a functional part, derivative and/or analogue thereof, obtainable by a process of claim 27.

32. (Withdrawn) An isolated cell comprising the nucleic acid of claim 11.

33. (Withdrawn) The isolated cell of claim 32, further comprising a Plasmodium

AMA-1 ectodomain or a functional part, derivative and/or analogue thereof.

34. (Withdrawn) A vaccine comprising the Plasmodium AMA-1 ectodomain or functional part, derivative and/or analogue thereof of claim 31.

35. (Withdrawn) The vaccine of claim 34 for use in preventing malaria.

36. (Withdrawn) The vaccine of claim 34 together with a suitable expedient.

37. (Withdrawn) The vaccine of claim 35, wherein said malaria is caused by Plasmodium falciparum.

38. (Withdrawn) The vaccine of claim 34, wherein said Plasmodium AAlA-1 ectodomain or functional part, derivative and/or analogue thereof is linked to C3d.

39. (Withdrawn) The vaccine of claim 34, wherein the malaria comprises Plasmodium falciparum FVO.

40. (Withdrawn) A vaccine comprising a proteinaceous molecule capable of binding a Plasmodium AMA-1 ectodomain or a functional part, derivative and/or analogue thereof.

41. (Withdrawn) A method of diagnosing a disease state in a subject, said method comprising using Plasmodium AMA-1 ectodomain or functional part, derivative and/or analogue thereof of claim 31 to diagnosing the disease state.

42. (Withdrawn) A method for, at least in part, providing prophylaxis against malaria, said method comprising administering the vaccine of claim 34 to a subject.

43. (Withdrawn) The method of claim 42, comprising administering to a subject slow release compositions comprising said vaccine.

44. (Withdrawn) A method for, at least in part, diagnosing malaria, said method comprising:

collecting a sample from an individual and
providing Plasmodium AMA-1 ectodomain or functional part, derivative and/or analogue thereof according to claim 31 with at least part of said sample.